

ABSTRACT

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An MPEG decoder in a high definition television receiver decodes and decompresses MPEG coded data to produce decompressed image pixel blocks, and includes a motion compensation network coupled to a frame memory to produce finally decoded pixel data for display. The decompressed MPEG data is recompressed by plural parallel recompressors prior to storage in frame memory. Each recompressor receives a datastream of interleaved pixel data, and predicts and compresses interleaved pixel values during each clock cycle, respectively. One of the recompressors is de-energized in a reduced data processing mode when pixel data is subsampled prior to recompression. Subsampled data is re-ordered prior to recompression. Multiple parallel decompressors coupled to the frame memory provide pixel data to the motion processing network. A control unit insures an uninterrupted interleaved data flow to the decompressors by repeating last valid data when source data is interrupted.